

REMARKS

This is a full and timely response to the non-final Office Action sent electronically on January 8, 2009. Claims 1, 2, 5, 6, and 9-12 are pending in the application. Claims 3, 4, 7 and 8 are canceled. Claim 1 is amended. The subject matter of claim 1 is supported in at least the first paragraph on page 6 (lines 10-14) of Applicant's original specification. Accordingly, no new matter is added to the present application.

In view of the foregoing amendments and following remarks, reconsideration and allowance of the present application and pending claims are respectfully requested.

Claim Rejections under 35 U.S.C. §103 – Claims 1, 2, 5, 6 and 9 - 12

A. Statement of the Rejection

Claims 1, 5, 6 and 9-12 stand rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over U.S. Patent No. 5,432,874 to Muraguchi (hereafter *Muraguchi*) in view of U.S. Patent No. 6,374,021 to Nakanishi (hereafter *Nakanishi*) and U.S. Patent No. 5,661,835 to Kato *et al.* (hereafter *Kato*.)

Claim 2 stands rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over *Muraguchi*, *Nakanishi* and *Kato* as applied to claim 1, and in further view of U.S. Patent Application Publication No. 2002/0064333 to Shigeta *et al.* (hereafter *Shigeta*.)

B. Discussion of the Rejection

For a claim to be properly rejected under 35 U.S.C. § 103, the Examiner should set forth in the Office Action the relevant teachings of the prior art relied upon, the difference or differences in the claim over the applied reference(s), the proposed modification necessary to arrive at the claimed subject matter and an explanation as to why the claimed invention would have been obvious to one of ordinary skill in the art at the time the invention was made. It is well settled law that a *prima facie* case of obviousness must teach or suggest all the claimed limitations.

Regarding the requirement to teach or suggest all the claim limitations, MPEP § 2143.03 states "To establish *prima facie* obviousness of a claimed invention, all the

claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). ‘All words in a claim must be considered in judging the patentability of that claim against the prior art.’ *In re Wilson*, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970). If an independent claim is nonobvious under 35 U.S.C. § 103, then any claim depending therefrom is nonobvious. *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988).

Each of Applicant’s claims 1, 2, 5, 6, and 9-12 includes at least one feature that is not disclosed, taught or suggested by the cited references, alone or in any combination.

1. Claims 1, 5, 6 and 9-12

Applicant’s claim 1 is directed to a system for converting first and second signals representative of payload and supervisory information, respectively, between an electrical format and a WDM aggregated optical format. Claim 1, as amended, comprises at least “an optical connector aligned with the disaggregated optical format of at least one of the first converter and the second converter, the optical connector arranged to receive a reflected disaggregated optical format from the remaining converter,” and “wherein said at least one first converter, said at least one second converter and said at least one optical WDM converter are integrated to a single self-contained module by means of signal propagation paths that are exempt from splices.” At least this arrangement of elements and features is not disclosed by the proposed combination of *Muraguchi*, *Nakanishi* and *Kato*.

Regarding independent claim 1, without conceding the propriety of the asserted combination or whether one of ordinary skill would have been motivated to make the asserted combination for the alleged reasons, Applicant respectfully submits that the asserted combination does not disclose, teach or suggest at least the aforementioned features of claim 1.

Muraguchi is directed to a light signal transmitting apparatus having first and second terminals and two optical fibers for coupling the first and second terminals to one another. Light signals are transmitted to the first and second terminals in opposing directions. A multiplexer is used to combine information from a high-speed electrical signal and information from a low-speed electrical signal in a combined

light signal in each of the first and second terminals. A demultiplexer is used to separate the light signal into two light signals before converting the light signals into the high-speed electrical signal and the low-speed electrical signal.

Muraguchi is entirely silent regarding “an optical connector aligned with the disaggregated optical format of at least one of the first converter and the second converter, the optical connector arranged to receive a reflected disaggregated optical format from the remaining converter,” and “wherein said at least one first converter, said at least one second converter and said at least one optical WDM converter are integrated to a single self-contained module by means of signal propagation paths that are exempt from splices.”

Nakanishi is directed to a combined photodiode/laser diode module. The module comprises a platform, a straight light guide (waveguide) formed on the platform for guiding transmitting light and receiving light. A light source (a laser diode or light-emitting diode) is positioned at an end of the light guide for emitting transmitting light. A photodiode mounted just above the light guide detects received signals. A filter slopes upward for reflecting receiving light to the photodiode and passing transmitting light.

Nakanishi is cited for its disclosure of a first converter (e.g., LD 169 in FIGs. 21 and 22) a second converter (e.g., PD 168 in FIGs. 21 and 22) and an optical WDM converter (e.g., the WDM filter 171 in FIGs. 21 and 22) in a hermetic enclosure (FIGs. 23-25). Office Action, pg. 4, second paragraph.

The first and second converters disclosed in *Nakanishi* are not the same as Applicant's claimed first and second converters for at least the reason that Applicant's claim 1 includes “at least one first converter for converting said first signal between said electrical format and a first, disaggregated optical format communicating payload information,” and “at least one second converter for converting said second signal between said electrical format and a second, disaggregated optical format communicating supervisory information.” *Nakanishi*'s second converter is a photodetector. A photodetector converts an optical signal to an electrical signal.

In contrast with *Nakanishi*, both the first and second converters recited included in claim 1 translate electrical signals into optical signals. Thus, *Nakanishi*'s second converter is entirely incapable of converting said second signal between said

electrical format and a second, disaggregated optical format communicating supervisory information.

Nakanishi is entirely silent regarding the arrangement of “an optical connector aligned with the disaggregated optical format of at least one of the first converter and the second converter, the optical connector arranged to receive a reflected disaggregated optical format from the remaining converter,” and “wherein said at least one first converter, said at least one second converter and said at least one optical WDM converter are integrated to a single self-contained module by means of signal propagation paths that are exempt from splices.”

Kato is directed to an optical composite module including a housing having two opposing side surfaces. A light separating unit disposed in the housing is adapted to separate pumping light and signal light. Optical fibers respectively mounted on the opposing side surfaces of the housing cause the signal light to pass through the light separating unit on a substantially straight line. A pumping light source unit disposed in the housing is adapted to cause the pumping light to be incident on the light separating unit. The composite module can reduce a loss of light and improve the utilization efficiency of pumping light.

Kato is cited for its disclosure of a WDM system with a beam splitter, focusing lens and an isolator. The Office Action indicates that *Kato* (Figs. 4-6) teaches a WDM (e.g., 3 in FIG. 6) aligned with an optical connector (ferrule 41a) for conveying a first light (e.g., light from laser 1) and a second light (e.g., the signal light from 6b). Office Action, pg. 5, first paragraph.

Kato is entirely silent regarding the arrangement of “an optical connector aligned with the disaggregated optical format of at least one of the first converter and the second converter, the optical connector arranged to receive a reflected disaggregated optical format from the remaining converter,” and “wherein said at least one first converter, said at least one second converter and said at least one optical WDM converter are integrated to a single self-contained module by means of signal propagation paths that are exempt from splices.”

Consequently, the proposed combination of *Muraguchi*, *Nakanishi* and *Kato* fails to render Applicant's independent claim 1, as amended, obvious because the claim includes elements arranged in a manner that is not disclosed, taught or

suggested by the proposed combination. Accordingly, favorable reconsideration and withdrawal of the rejection of independent claim 1 under 35 U.S.C. §103(a) are respectfully requested.

Applicant's dependent claims 5, 6 and 9-12 are also allowable for at least the reason that claims 5, 6 and 9-12 depend directly or indirectly from allowable independent claim 1. *In re Fine*, 837 F.2d 1071, 5 U.S.P.Q.2d 1596, 1598 (Fed. Cir. 1988) (Citations omitted). Accordingly, favorable reconsideration and withdrawal of the rejection of dependent claims 5, 6 and 9-12 under 35 U.S.C. §103(a) are respectfully requested.

2. Claim 2

Applicant's dependent claim 2 depends directly from independent claim 1, which comprises "an optical connector aligned with the disaggregated optical format of at least one of the first converter and the second converter, the optical connector arranged to receive a reflected disaggregated optical format from the remaining converter," and "wherein said at least one first converter, said at least one second converter and said at least one optical WDM converter are integrated to a single self-contained module by means of signal propagation paths that are exempt from splices." At least this arrangement of features is not disclosed by the proposed combination of *Muraguchi, Nakanishi, Kato* and *Shigeta*.

Without conceding the propriety of the asserted combination, Applicant respectfully submits that the combination does not disclose at least the aforementioned features of claim 2, for at least the following reason.

As shown above, the combination of *Muraguchi, Nakanishi, and Kato* is entirely silent regarding "an optical connector aligned with the disaggregated optical format of at least one of the first converter and the second converter, the optical connector arranged to receive a reflected disaggregated optical format from the remaining converter," and "wherein said at least one first converter, said at least one second converter and said at least one optical WDM converter are integrated to a single self-contained module by means of signal propagation paths that are exempt from splices." *Shigeta* is cited for its disclosure of "processing electronics being

integrated to a single self-contained module (e.g., FIG. 17).” Office Action, pg. 11, fourth paragraph.

However, *Shigeta* does not show, and the cited portions of *Shigeta* are entirely silent regarding “an optical connector aligned with the disaggregated optical format of at least one of the first converter and the second converter, the optical connector arranged to receive a reflected disaggregated optical format from the remaining converter,” and “wherein said at least one first converter, said at least one second converter and said at least one optical WDM converter are integrated to a single self-contained module by means of signal propagation paths that are exempt from splices.”

Consequently, the proposed combination of *Muraguchi*, *Nakanishi*, *Kato* and *Shigeta* fails to render Applicant’s dependent claim 2 obvious because the claim includes features arranged in a manner that is not disclosed, taught or suggested by the proposed combination. Accordingly, favorable reconsideration and withdrawal of the rejection of dependent claim 2 under 35 U.S.C. §103(a) are respectfully requested.

CONCLUSION

For at least the reasons set forth above, Applicant respectfully submits that pending claims 1, 2, 5, 6 and 9-12 are allowable over the cited art of record and the present application is in condition for allowance. Accordingly, a Notice of Allowance is respectfully solicited. Should the Examiner have any comments regarding the Applicant’s response, Applicant requests that the Examiner telephone Applicant’s undersigned attorney.

Respectfully submitted,

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